

IN THE CLAIMS:

1. (currently amended) An X-ray fluorescence analysis apparatus comprising:

a first housing for housing an X-ray tube for irradiating a sample to be measured with primary X-rays;

a second housing for housing a high-voltage power supply for supplying a high-voltage to the X-ray tube; and

a high-voltage cable for connecting the X-ray tube and to the high-voltage power supply, the high-voltage cable and having a core, an insulator covering the core, and a shielding wire covering the insulator; high-voltage connector at least at one end thereof, the high-voltage connector comprising a core, an insulator covering the core, a fixing screw for connecting the high-voltage cable to a receptacle provided on one of the housings, a detachable sheath for removably covering an exposed portion of the core, the sheath having a thread corresponding to a thread of the fixing screw for enabling fixing of the sheath to the fixing screw, and a conductor formed at an inner surface of the sheath so that the core makes contact therewith when the sheath is fixed to the fixing screw.

a high-voltage connector disposed at least at one end of the high-voltage cable and having a first connecting member for removably connecting the high-voltage cable to a receptacle provided on one of the first and second housings;

a removable sheath for removably covering an exposed portion of the core of the high-voltage cable, the sheath having a second connecting member for electrical and mechanical connection to the first connecting member of the high-voltage connector to removably connect the sheath to the high-voltage connector; and

a conductor disposed at an inner surface of the sheath for contacting the core of the high-voltage cable to electrically connect the core to the shielding wire of the high-voltage cable when the second connecting member of the sheath is electrically and mechanically connected to the first connecting member of the high-voltage connector.

2. (currently amended) An X-ray fluorescence analysis apparatus according to claim 1; wherein the high-voltage cable further comprises a ~~shielding wire covering the insulator and in electrical contact with the core~~, and a protective cover covering the shielding wire.

3. (currently amended) An X-ray fluorescence analysis apparatus according to ~~claim 2; wherein claim 1; wherein the shielding wire of the high-voltage cable is electrically connected to the first connecting member and the conductor is electrically connected to the second connecting member. the fixing screw is in electrical contact with the~~

~~shielding wire so that when the sheath is fixed to the fixing screw electrical contact is established between the core, the shielding wire and the fixing screw.~~

4. (canceled).

5. (currently amended) An X-ray fluorescence analysis apparatus according to claim 1; wherein the conductor ~~formed at the inner surface of the sheath~~ is configured to electrically contact the core without bending the core when the second connecting member of the sheath is electrically and mechanically connected to the first connecting member of the high-voltage connector. such that when the sheath is fixed to the fixing screw the core does not become bent.

6. (currently amended) An X-ray fluorescence analysis apparatus according to ~~claim 5~~; wherein the conductor ~~is configured to slidably receive the core when the sheath is threaded to the fixing screw.~~ claim 1; wherein the conductor is configured to slidably receive the core when the second connecting member of the sheath is electrically and mechanically connected to the first connecting member of the high-voltage connector.

7. (currently amended) In combination: a high-voltage cable comprising: an having an elongated conductive core; an core, an insulator covering the conductive core, and a shielding wire covering the insulator; a plug provided at least at one end of the high-voltage cable and having a connecting fixing member attached to the high-voltage cable such that an exposed portion of the conductive core extends therefrom, the fixing member having a fixing portion for fixing connecting member having a connecting portion for connecting the exposed portion of the conductive core to a receptacle of an electrical apparatus to establish an electrical connection therewith; and a sheath removably connectable to the connecting member of the plug fixing portion of the fixing member for covering the exposed portion of the conductive core when the exposed portion of the conductive core is not connected to the receptacle of the electrical apparatus; and cable is not fixed to the receptacle, the sheath having a conductor for establishing an electrical connection with the conductive core. a conductor disposed at an inner surface of the sheath for contacting the exposed portion of the conductive core of the high-voltage cable to electrically connect the conductive core to the shielding wire of the high-voltage cable when the sheath is removably connected to the connecting member of the plug.

8. (currently amended) A combination high-voltage cable according to claim 7; further comprising a shielding wire covering the insulator and being electrically connected to the conductive core, and protective cladding covering the shielding wire, such wire such that the fixing connecting member is in electrical contact with the shielding wire so that when the sheath is connected fixed to the connecting fixing member electrical contact is established between the conductive core, the shielding wire and the connecting fixing member.

9. (currently amended) A combination high-voltage cable according to claim 7; wherein the conductor is configured to contact the conductive core without bending the conductive core such that when the sheath is connected fixed to the connecting fixing member the conductive core does not become bent.

10. (currently amended) A combination high-voltage cable according to claim 9; wherein the conductor is configured to slidably receive the conductive claim 9; wherein the conductor is configured to slidably receive the core when the sheath is connected to the connecting fixing member.

11. (currently amended) A combination high-voltage cable according to claim 7; wherein the connecting fixing member comprises a fixing screw having a central opening through which the conductive core passes, and having passes and a thread corresponding to a thread on the receptacle.

12. (currently amended) A combination high-voltage cable according to claim 7; wherein the receptacle is provided in at least one of a high-voltage power supply and an X-ray tube housing of an X-ray fluorescence analysis apparatus.

13. (new) An X-ray fluorescence analysis apparatus comprising:

a first housing for housing an X-ray tube for irradiating a sample to be measured with primary X-rays;

a second housing for housing a high-voltage power supply for supplying a high-voltage to the X-ray tube;

a high-voltage cable for connecting the X-ray tube to the high-voltage power supply, the high-voltage cable having a conductive core, an insulator covering the conductive core except for an exposed end portion of the conductive core, and a shielding wire covering the insulator; and

connecting means for covering the exposed end portion of the conductive core and for electrically connecting the conductive core to the shielding wire of the high-voltage

cable when the high-voltage cable does not connect the X-ray tube to the high-voltage power supply.

14. (new) An X-ray fluorescence analysis apparatus according to claim 13; wherein the connecting means comprises a high-voltage connector disposed at one end of the high-voltage cable and having a conductive first connecting member for removably connecting the high-voltage cable to a receptacle provided on one of the first and second housings; a removable sheath for removably covering the exposed end portion of the conductive core of the high-voltage cable, the sheath having a conductive second connecting member for removable electrical and mechanical connection to the first connecting member of the high-voltage connector to removably connect the sheath to the high-voltage connector; and a conductor member disposed at an inner surface of the sheath for contacting the conductive core of the high-voltage cable to electrically connect the conductive core to the shielding wire of the high-voltage cable when the second connecting member of the sheath is electrically and mechanically connected to the first connecting member of the high-voltage connector.

15. (new) An X-ray fluorescence analysis apparatus according to claim 14; wherein the high-voltage cable further comprises a protective cover covering the shielding wire.

16. (new) An X-ray fluorescence analysis apparatus according to claim 14; wherein the shielding wire of the high-voltage cable is electrically connected to the first connecting member and the conductor member is electrically connected to the second connecting member.

17. (new) An X-ray fluorescence analysis apparatus according to claim 13; wherein the conductor member is generally spiral-shaped.

18. (new) An X-ray fluorescence analysis apparatus according to claim 13; wherein the conductor member is generally conical-shaped.

19. (new) An X-ray fluorescence analysis apparatus according to claim 13; wherein the connecting means comprises a high-voltage connector disposed at one end of the high-voltage cable and having a conductive first connecting member for removably connecting the high-voltage cable to a receptacle provided on one of the first and second housings; a removable sheath for removably covering the exposed end portion of the conductive core of the high-voltage cable, the sheath having a conductive second connecting member for removable electrical and mechanical connection to the first connecting member of the high-voltage connector to removably connect the sheath to the high-voltage connector; a conductive

lead member connected to an inner surface of the sheath and having a first end connected to the second connecting member and a second end; and a conductor member electrically connected to the second end of the conductive lead member for contacting the conductive core of the high-voltage cable to electrically connect the conductive core to the shielding wire of the high-voltage cable when the second connecting member of the sheath is electrically and mechanically connected to the first connecting member of the high-voltage connector.

20. (new) An X-ray fluorescence analysis apparatus according to claim 19; wherein the sheath comprises a tubular member having a first portion made of a non-metallic material and a second portion extending from the first portion and forming the conductive second connecting member; and wherein the conductive lead member and the conductor member are connected to the first portion of the tubular member.

21. (new) In combination:

a high-voltage cable having an elongated conductive core, an insulator covering the conductive core, and a shielding wire covering the insulator;

a high-voltage connector having a connecting member electrically connected to shielding wire of the high-voltage cable so that an exposed portion of the conductive core

extends therefrom, the connecting member having a connecting portion for connecting the exposed portion of the conductive core to a receptacle of an electrical apparatus to establish an electrical connection therewith; and

a connecting structure having a connecting portion for connection to the connecting member of the high-voltage connector when the connecting portion of the connecting member does not connect the exposed portion of the conductive core to the receptacle of the electrical apparatus, a cover portion for covering the exposed portion of the conductive core of the high-voltage cable when the connecting portion is connected to the connecting member of the high-voltage connector, and a conductor member disposed in the cover portion to electrically contact the exposed portion of the conductive core of the high-voltage cable when the connecting portion is connected to the connecting member of the high-voltage connector for short-circuiting the conductive core and the shielding wire of the high-voltage cable to prevent electric charges from accumulating between the conductive core and the shielding wire.

22. (new) A combination according to claim 21; further comprising a conductive lead member disposed in the cover portion of the connecting structure, the conductive lead

member having a first end connected to the conductor member and a second end connected to the connecting portion of the connecting structure.